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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/591,747

09/06/2006

Shuya Hosokawa

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04/14/2009

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EXAMINER

DONADO, FRANK E

ART UNIT

PAPER NUMBER

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/591,747	<b>Applicant(s)</b> HOSOKAWA ET AL.	
	<b>Examiner</b> FRANK DONADO	<b>Art Unit</b> 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 28-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 28-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Response to Amendment*

1. The amendment filed on 09/06/06 has been entered. All previous claims (1-28) have been cancelled. Claims 29-34 have been added. Claims 29-34 are currently pending in this application, with claims 29 and 34 being independent.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 29, 30, 33, and 34 are rejected under 35 U.S.C. 102(e) as being anticipated by Farnham, et al (**US PG Publication 2005/0163070**). From now on, Farnham, et al, will be referred to as Farnham.

Regarding claim 29, Farnham teaches a communication apparatus for data communication with at least one terminal, and for controlling a communication timing by detecting transmission characteristics, which vary periodically at a predetermined frequency, in a transmission path to the terminal, said communication apparatus comprising: a receiver operable to receive a plurality of packets from the terminal at a plurality of transmission timings of packets within one cycle of said predetermined

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frequency (**A base station receives packets from mobile stations at different signal levels, where predetermined QoS levels are used to reduce delays during specific time slots and are related to signal transmissions at a predetermined frequency** Paragraph 5, lines 1-8, Paragraph 41, lines 1-3, Paragraph 46, lines 1-6 and Paragraph 47), and to generate information regarding a receiving condition of the received packets (**Interference measures are taken for received packets, Paragraph 6, lines 1-3 and Paragraph 7**); a detector operable to detect, based on said information regarding the receiving condition of the received packets, an interval at which an error rate is higher than a specified threshold within said one cycle of said predetermined frequency (**An interval is detected during which a certain predetermined Quality of Service (QoS) level is not possible due to said interference, where said base station of Figure 4a uses error rate to predict receiving condition, , Paragraph 6, lines 1-7, Paragraph 7, Paragraph 11, Paragraph 41, lines 1-3, Paragraph 46, lines 1-6 and Paragraph 47**); and a transmission controller operable to set said detected interval in subsequent cycles of said predetermined frequency as an interval for stopping data transmission with respect to the terminal (**Signal transmission related to said interference is suppressed during transmission of signal for which said certain QoS level is desired, Paragraph 9**).

Regarding claim 30, Farnham teaches the communication apparatus as described in claim 29, wherein said receiver is operable to detect, for each of said received packets, whether or not an error exists (**An interference level is detected at a first channel, Paragraph 7, lines 5-8**), and to generate an error signal upon

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detection of each error, and wherein said detector detects an error rate distribution to detect the interval at which the error rate is higher than the specified threshold **(A performance assessment function 25a within said base station passes this information to scheduler 24a to determine whether a specific QoS level can be achieved during specific time slots, Paragraph 46, lines 10-15 and Paragraph 47, lines 1-5).**

Regarding claim 33, Farnham teaches the communication apparatus as described in claim 29, wherein said receiver generates, upon receipt of packets from the terminal, transmission path information based on the received packets **(Interference measures over transmission channels are taken for received packets, Paragraph 6, lines 1-3 and Paragraph 7)**, and wherein said detector detects the interval at which the error rate is higher than the specified threshold based on said transmission path information **(An interval is detected during which a certain predetermined Quality of Service (QoS) level is not possible due to said interference, where said base station of Figure 4a uses error rate to predict receiving condition, and predetermined QoS levels are used to reduce delays during specific time slots and are related to signal transmissions at a predetermined frequency, Paragraph 6, lines 1-7, Paragraph 7, Paragraph 11, Paragraph 41, lines 1-3, Paragraph 46, lines 1-6 and Paragraph 47).**

Regarding claim 34, Farnham teaches a communication method for data communication with at least one terminal, and for controlling a communication timing by detecting transmission characteristics, which vary periodically at a predetermined

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frequency, in a transmission path to the terminal, said communication method comprising: receiving a plurality of packets from the terminal at a plurality of transmission timings of packets within one cycle of said predetermined frequency (**A base station receives packets from mobile stations at different signal levels, where predetermined QoS levels are used to reduce delays during specific time slots and are related to signal transmissions at a predetermined frequency Paragraph 5, lines 1-8, Paragraph 41, lines 1-3, Paragraph 46, lines 1-6 and Paragraph 47**); generating information regarding a receiving condition of the received packets (**Interference measures are taken for received packets, Paragraph 6, lines 1-3 and Paragraph 7**); detecting, based on the information regarding the receiving condition of the received packets, an interval at which an error rate is higher than a specified threshold within said one cycle of said predetermined frequency (**An interval is detected during which a certain predetermined Quality of Service (QoS) level is not possible due to said interference, where said base station of Figure 4a uses error rate to predict receiving condition, , Paragraph 6, lines 1-7, Paragraph 7, Paragraph 11, Paragraph 41, lines 1-3, Paragraph 46, lines 1-6 and Paragraph 47**); and setting said detected interval in subsequent cycles of said predetermined frequency as an interval for stopping data transmission with respect to the terminal (**Signal transmission related to said interference is suppressed during transmission of signal for which said certain QoS level is desired, Paragraph 9**).

***Claim Rejections - 35 USC § 103***

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4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Farnham, in view of Fahim (**US Patent No. 7,042,972**).

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Regarding claim 31, Farnham teaches the communication apparatus as described in claim 30, further comprising: a periodic signal generator operable to generate a periodic signal at said predetermined frequency (**Transceivers within said base stations transmit signals during said time slot where signals are transmitted at said predetermined frequency related to said predetermined QoS level, Paragraph 29, lines 1-4, Paragraph 30, lines 1-10, Paragraph 32 and Paragraph 38, lines 9-18**), wherein said receiver is operable to receive a plurality of packets transmitted from the terminal during a plurality of cycles of said predetermined frequency (**Said base station receives a plurality of packets from said mobile terminal during a plurality of cycles at said predetermined frequency related to said predetermined QoS level, Paragraph 5**). Farnham does not teach said detector detects a phase of each of the error signals relative to said periodic signal, and detects the error rate distribution by counting the number of errors at various phases during the plurality of cycles of said predetermined frequency. Fahim teaches said detector detects a phase of each of the error signals relative to said periodic signal, and detects the error rate distribution by counting the number of errors at various phases during the plurality of cycles of said predetermined frequency (**An integrated circuit comprises a control unit that counts and detects phase errors, where said phase error information is used to correct phases of received signals, Column 2, lines 14-23, Column 15, lines 1-7, Claims 25 and 30**). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Farnham to



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incorporate this function into the control unit of the Base Station for the benefit of added transmission efficiency.

Regarding claim 32, Farnham, in view of Fahim, teaches the communication apparatus as described in claim 31. Farnham further teaches said periodic signal generator detects an AC power source voltage or current and generates said periodic signal based on the detected AC voltage or AC current (**A transmission management function (TM) receives said QoS and interference level information related to power level from said transceivers, where said TM function uses this information to inform transceivers to transmit subsequent signals at a power level related to said QoS level during said time slot, Paragraph 29, lines 1-4, Paragraph 30, lines 1-10 and Paragraph 32).**

### ***Response to Arguments***

8. Applicant's arguments, filed 09/06/06, with respect to the rejection(s) of claim(s) 1-28 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Farnham, in view of Fahim (see above).

### ***Conclusion***

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to FRANK DONADO whose telephone number is (571) 270-5361. The examiner can normally be reached Monday-Friday, 9:30 am-6 pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rafael Perez-Gutierrez can be reached on 571-272-7915. The fax phone number for the organization where this application or proceeding is assigned is 571-270-6361.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-273-8300.

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